

## Patent Abstracts of Japan

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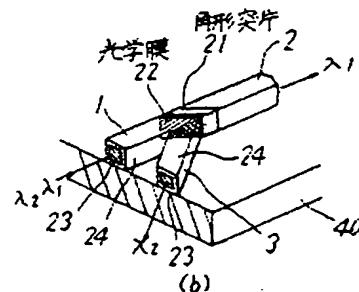
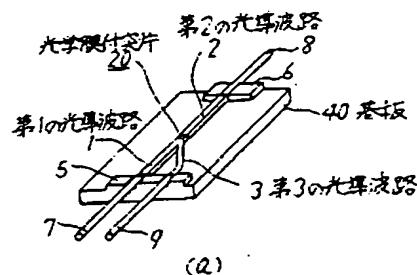
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TITLE : OPTICAL DEVICE



ABSTRACT : PURPOSE: To obtain an optical device of a low cost, whose coupling loss is small, and also, whose coupling degree is stable, by constituting this device of a projecting piece with an optical film, which has been formed on the surface of a substrate, and plural optical waveguides which have been formed on the surface of the substrate, so as to be brought to optical coupling through the projecting piece with an optical film.

CONSTITUTION: An optical device is constituted of a projecting piece with an optical film, consisting of a transparent thin square-shaped projecting piece 21 which has been formed by etching on the surface of a substrate 40 consisting of a transparent body, and an optical film 22 which has been formed on the side face of the square-shaped projecting piece 21, and plural optical waveguides 1, 2 and 3 which have been formed on the surface of the substrate 40 so as to be brought to optical coupling through the optical film 22. Since the square-shaped projecting piece 21 is formed by an etching means, it is formed thinly enough, and also, an angle of a plane vision has high accuracy. Also, the respective optical waveguides form a desired dielectric film on the surface of the substrate 40, and thereafter, can be formed by the etching means. Accordingly, the respective optical waveguides adhere closely to the side face of the projecting piece with an optical film 20.

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